Santa Monica Bay NEP Program Overview (October 2017)

Natural resource protection and habitat restoration Clean Bay Restaurant Certification Program
The Santa Monica Bay National Estuary Program (SMBNEP) is leading several restoration efforts in the Santa Monica Bay watershed including kelp, abalone, dune and beach, creek, and wetlands.

Kelp restoration To date, SMBNEP has restored 40 acres of kelp forest by reducing the density of purple sea urchins to 2/sq. meter within the boundaries of sea urchin barrens on the Palos Verdes Peninsula. Removing urchins allows for recruitment and development of giant kelp and other species of macroalgae and restores biogenic habitat to rocky reefs that historically supported kelp forests. SMBNEP in partnership with several universities is studying how restored kelp forests influence temperature, stratification, mixing, sediment transport, currents, ocean acidification and the attenuation of wave energy.

Abalone restoration Abalone are a natural predator of the purple sea urchin, and were once abundant along the California coast, but populations have been impacted by habitat loss, Withering Syndrome disease, and commercial and recreational fishing resulting in the 1997 closure of the abalone fishery. SMBNEP is working with NOAA, NMFS, UCSB and others to reintroduce and restore native abalone populations since 2011, and built a lab at the Southern California Marine Institute in 2016 to study captive abalone spawning and broodstock conditioning. To facilitate local recovery of these species, SMBNEP initiated research on abalone population level genetics and development of disease prevention protocols. The major goal of the abalone project is to outplant abalone into the wild at a density that will allow reproduction to once again occur naturally.

Dune and beach restoration SMBNEP is promoting and implementing comprehensive sediment management and other "soft" and “living” measures to address the impact of sea level rise in the beach and adjacent ecosystems of the Bay. SMBNEP is working with the City of Santa Monica to restore 3 acres of coastal strand beach habitat, and LAX to restore 48 of 300+ acres of dune habitat- the largest contiguous parcel of dune habitat in Southern California.

Wetland and Creek restoration SMBNEP in partnership with California Department of Parks and Recreation (CDPR) restored 13 acres of the 31-acre shallow water estuary at Malibu Lagoon in 2013. They are conducting post-restoration monitoring (year 5 of 5) for biological, chemical, and physical parameters. SMBNEP also has an active community restoration program at Ballona Wetlands, a site managed by California Department of Fish and Wildlife, where they are removing non-native species (primarily iceplant). The draft Ballona Wetlands EIR/EIS is out for public comment until early Feb 2018. Further north along the coast, SMBNEP worked with CDPR in 2016 to remove three fish barriers along Arroyo Sequit Creek opening 4.5 miles of creek habitat for southern steelhead.

Engaging the community A key component of the NEP’s program is community restoration projects. SMBNEP brings community members to Ballona, LAX dunes, Santa Monica beach and other locations on about a monthly basis to further restoration in the watershed.

Revise Bay Restoration Plan (BRP)/Comprehensive Conservation and Management Plan (CCMP)
SMBNEP updated it BRP in 2013. They are revising the BRP to take climate change impacts into account, and recently held the first of several planned workshops to gather input from the SMBRC Governing Board. The current schedule is to have a draft final plan by October 2018 for EPA concurrence.

Boater Education Program SMBNEP staff provide peer-to-peer education and outreach mobile pump outs at local marinas to educate the boating community on proper waste disposal.

Clean Bay Restaurant Certification Program SMBNEP staff are working with stormwater staff in 11 communities to implement the Clean Bay Restaurant Certification Program. Currently the 350 participating restaurants follow key practices to reduce pollutants flowing to Santa Monica Bay including proper waste management, water conservation, equipment and outdoor cleaning, grease handling and spill disposal, and education and training for employees. Starting in 2018 SMBNEP will begin a source reduction pilot with 1-3 restaurants funded by an additional $25,000 from EPA HQ.

Green Infrastructure In FY17 the SMBRC Governing Board recommended five new projects for $9 million in funding through Prop 84 via the State Water Resources Control Board (SWRCB). These projects will assist responsible agencies in meeting the requirements of the new Los Angeles County MS4 Permit.

Culver Boulevard Realignment and Stormwater Infiltration/Retention Regional Project The proposed system will include a belowground infiltration/retention basin situated underneath the Culver Blvd. median, capable of capturing/treating the 85th percentile, 24-hour design storm runoff from a drainage area of 800 acres and capture 100% of the dry weather flow from its drainage area. Project lead: City of Culver City.

Westwood Neighborhood Greenway Project The project proposes to divert and capture dry-weather flow from a stormdrain that captures runoff from 2,400 acres of drainage area into two parallel bioswales to improve water quality in the receiving waters (Sepulveda Channel, Ballona Estuary and Santa Monica Bay Beaches). The project is expected to capture 67,000 to 340,000 gallons per day of urban runoff. During storm events, this 5-acre project will capture the "first flush" of the storm from a 2,400-acre drainage area. Project lead: City of Los Angeles.

Santa Monica Bay Catch Basin Insert Project The project will retrofit Connector Pipe Screen (CPS) units in as many as 1,368 catch basins in three cities in the Palos Verdes Peninsula Watershed. They include the Cities of Rancho Palos Verdes, Palos Verdes Estates, and Rolling Hills Estates. The portion of the Peninsula WMG that drains to Santa Monica Bay consists of approximate 14 sq. miles. Project lead: City of Rancho Palos Verdes.

Ladera Park Water Quality Enhancement Project Through a combination of pre-treatment, retention, and infiltration facilities, the Project will treat then store and infiltrate the 85th percentile 24-hour storm volume of 5.1 acre-feet of stormwater runoff and all the non-stormwater runoff from the 110-acre tributary area. Project lead: County of Los Angeles Department of Public Works.

Gates Canyon Park Project The project is located at an 8.2 acre park space located within the upper Malibu Creek Watershed. The Project will divert runoff from an existing storm drain to a proposed underground detention gallery and capture up to the 85th percentile storm from 105 acres of single family residential property tributary to this project, and provide infiltration as well as water storage capacity through a gallery below the park's open space. The stored water will be utilized to irrigate Gates Canyon Park during the dry season. Project lead: County of Los Angeles Department of Public Works.

More background info- four Erica only

Rocky reef/kelp forest restoration project
Over the past 100 years, the Palos Verdes Peninsula has lost approximately 75% of its giant kelp canopy. Sedimentation, development, urban runoff and storms slow or prevent kelp growth. At the same time, the loss of key urchin predators and competitors allowed urchins to overrun the reef and devour the remaining kelp. Subtidal observations based upon mapping efforts conducted in 2010 identified large expanses of nearshore rocky reef that were dominated by high densities of sea urchins, Strongylocentrotus purpuratus and S. franciscanus. In total, 61.5 hectares were described to exist as an urchin barren. The purpose of the kelp restoration project is to reduce the density of purple sea urchins (S. purpuratus) to approximately two per square meter within the boundaries of sea urchin barrens on the Palos Verdes Peninsula. This will allow for the recruitment and development of giant kelp, Macrocystis pyrifera, and other species of macroalgae. This project will reduce sea urchin grazing pressure to restore biogenic habitat to rocky reefs that historically supported kelp forests, which will, in turn, increase the spatial and temporal stability, biomass, and production associated with rocky reefs on the Peninsula.
SMBNEP has a long history in working with several partner organizations and engaging in restoration of rocky reef/kelp forest habitats, which is one of the most productive and diverse marine ecosystems in the world. The newly expanded, multi-year rocky reef/kelp restoration project by SMBNEP began in the summer of 2013, and to-date has cleared more than 3.3 million purple sea urchins from 39 acres of reef (as of 31 December 2016).
In FY18, SMBNEP will continue to carry out this restoration project off the Palos Verdes shelf which is expected to result in restoration of 12-18 acres of kelp forest. Semi-annual reports to NFWF, and one annual report to CDFW will be developed to document the activities, including pre and post-restoration monitoring, and results of the project. There are many partners and participating or interested organizations in this project, including (in part): NOAA, Montrose Settlement Restoration Program (MSRP) trustees, NMFS, Vantuna Research Group, Occidental College, Commercial Sea Urchin Harvesters, OPC, SCC, Southern California Marine Institute, CDFW, and others.

In FY16, SMBNEP secured funding in partnership with researchers from UC Davis and California State University Monterey Bay; to quantify how restored kelp forests influence temperature, stratification, mixing, sediment transport, advective currents, ocean acidification and the attenuation of wave energy. Oceanographic equipment is deployed to collect physical measurements

In FY17, a UCLA IoES Senior Practicum group accepted an opportunity to expand and build upon the work of the hydrodynamic study. The hypothesis of this work is that ocean acidification may be suppressed within giant kelp forests as a result of high primary production of the system. The students in this project are supported by SMBNEP staff and researchers from UC Davis and UCLA as they collect water quality samples to inform their hypothesis. A final report summarizing their methods, literature review, data and analyses will be produced in June 2017. SMBNEP and UC Davis are currently seeking funding to extend this work into FY18.

- LAX Dunes: restoring 48 of 300+ acres of dune habitat in partnership with LAX and Friends of LAX dunes. This is the largest contiguous parcel of dune habitat in Southern California.
- Santa Monica Beach restoration (coastal strand habitat): restoring 3 acres of coastal strand

beach habitat in partnership with the city of Santa Monica. Seeded site and over 10,000 native plant sprouted, first snowy plover in 70 years nested at the site